Federal Democratic Republic of Ethiopia

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ET 470 (2000) (English): PUMPKIN SEED - SPECIFICATION

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ETHIOPIAN
STANDARD

ES 470:2000

(Reaffirmed :2012)

First edition

Pumpkin seeds - Specification

ICS: 65.020.20

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Foreword

This Ethiopian Standard has been prepared under the direction of Technical Committee for seeds (TC 16) and published by the Ethiopian Standards Agency (ESA).
The technical contents in the text of this Standard are identical with ES 470:2000 edition while the reissued standard carries some editorial and technical changes observed in the course of systematic review.

Acknowledgement has been made for the use of the indicated publication.
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Pumpkin seed — Specification

1 Scope

This Ethiopian Standard specifies the requirements for certifying pumpkin (Cucumis sativs L) seeds.

2 Normative references

The following standard contain provision which, through reference in this text, constitute provision of this Ethiopian Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this Ethiopian Standard are encouraged to investigate the possibility of applying the most recent editions of the Ethiopian Standards indicated below. Registers of currently valid standards are maintained in the Quality and Standards Authority of Ethiopia.

ES 413:2000, *Seeds – Terminology*.

ES 471:2000, *Seeds – Sampling.*

ES 472:2000*, Seeds – Purity analysis.*

ES 473:2000*, Seeds – Determination of other seed crops.*

ES 474:2000*, Seeds – Germination test.*

ES 475:2000*, Seeds – Biochemical test for viability.*

ES 476:2000*, Seeds – Determination of seed health.*

ES 477:2000, *Seeds – Verification of species and cultivars*.

ES 478:2000*, Seeds – Determination of moisture content.*

3 Definitions

For the purpose of this standard, the definitions given in ES 413 shall apply.

4 Requirements

4.1 General

4.1.1 Pumpkin seed shall be free from contaminated, infested or infected seeds with

a) Colletotrichum lagenarium (anthracnose);

b) Cladosporium cucumerinum (scab, gummosis);

c) Furarium oxysporum (wilt);

d) Pseudomonas lachrymans (angular leaf spot);

e) Cucumber mosaic virus;

f) Alternaria cucumerina (leaf spot);

g) Didymella bryoniae /gummy stem blight/; and

h) Other seed borne diseases and parasitic weed seeds.

4.1.2 Pumpkin seed lot and seed field shall comply with the requirements given in Table 1 when determined in accordance with the test methods specified.

4.2 Land requirements

Land intended for pumpkin seed production shall be prepared timely and in such a way that a clean level seedbed is obtained. Seed fields for pumpkin seed crops shall be prevented from contamination and build up of soil-borne diseases from the same kind of crops grown in the previous seasons unless the seed crops grown in the previous season was a certified seed of varietal purity.

4.3 Rotation

The minimum number of years required for rotating pumpkin seed production shall be as specified in Table 1.

Table 1 – Minimum requirements for pumpkin seed certification

Characteristics	Breeder/ pre basic seed A	Basic seed B	Certified seed C1	Certified seed C2	Certified seed C3	Certified seed C4	Commercial/ emergency class E	Method of test
Field standard								
Rotation (min, year)	2	2	2	2	2	1	-	-
Isolation (min, meters)	1,000	1,000	800	600	600	400		-
Off types & other cultivar (max %)	0.05	0.05	0.1	0.2	0.2	0.5	-	-
Laboratory standard								
Pure seed (min %)	98	98	97	97	97	96	96	ES 472
Other crop seed (max %)	NS	0.05	0.1	0.2	0.2	0.5	1	ES 473
weed seed (max %)	NS	0.05	0.1	0.2	0.2	0.2	0.5	ES 472
Infected /infested/ seeds (max %)	NS	NS	NS	NS	NS	NS	NS	ES 476
Inert matter (max%)	NS	0.5	1	1	1	2	2	ES 472
Germination (min %)	80	80	80	75	75	70	70	ES 474 ES475
Verification of species and cultivar	-	-	-	-	-	-	-	ES 477
Moisture content (max %)	9	9	9	9	9	9	9	ES 478

N.S = Not specified

4.4 Field tests and inspection

4.4.1 Field control plots

Field control plots are required for classes of pre-basic, basic and for all subsequent certified seed generations, except for commercial seed crops, for determining the distinctness, uniformity and stability of the grown seed variety, value for cultivation and use.

4.4.2 Field inspection

A minimum of two-field inspection shall be made for all classes of seed production early at flowering and maturity.

4.5 Isolation

An isolation distance shall be provided all around spinach seed fields as specified in Table 1 to separate it from the fields of other related crop species and field of the same variety not conforming to the purity requirements.

4.6 Off-types/rogue/ plants and other cultivars

The maximum number of off-type plants and other crop cultivars in cucumber seed field shall be as specified in Table 1.

5 Sampling

Samples shall be taken in accordance with ES 471.

6 Packing

Each container of pumpkin seed shall be made from sound and strong materials that maintains the original quality of seeds.

7 Labelling and marking

7.1 Each container of pumpkin seed shall be labelled indelibly with the following particulars:

a) Name of the producers;

b) Name of certifying agency;

c) Name of the variety and class of seed;

d) Germination in percentage ;

e) Purity in percentage;

f) Year of production;

g) Net weight in kg;

h) Batch or identification number; and

i) Moisture content in percentage.

7.2 Marking

Each container of pumpkin seed that is in compliance with this Ethiopian Standard shall bear the Quality Mark upon approval by the Quality and Standards Authority of Ethiopia.

8 Compliance with the standard

Pumpkin seed lot shall be deemed to comply with this Ethiopian Standard if upon inspection and testing the provision of clauses 4, 6 and 7 are satisfied.

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Ethiopian Standards Agency

Organization and Objectives

The Ethiopian Standards Agency (ESA) is the national standards body of Ethiopia established in 2010 based on regulation No. 193/2010.ESA is established due to the restructuring of Quality and Standards Authority of Ethiopia (QSAE) which was established in 1970.

ESA's objectives are:-

- Develop Ethiopian standards and establish a system that enable to check weather goods and services are in compliance with the required standards,
- Facilitate the country's technology transfer through the use of standards,
- Develop national standards for local products and services so as to make them competitive in the international market.

Ethiopian Standards

The Ethiopian Standards are developed by national technical committees which are composed of different stakeholders consisting of educational Institutions, research institutes, government organizations, certification, inspection, and testing organizations, regulatory bodies, consumer association etc. The requirements and/ or recommendations contained in Ethiopian Standards are consensus based that reflects the interest of the TC representatives and also of comments received from the public and other sources. Ethiopian Standards are approved by the National Standardization Council and are kept under continuous review after publication and updated regularly to take account of latest scientific and technological changes.
Orders for all Ethiopian Standards, International Standard and ASTM standards, including electronic versions, should be addressed to the Documentation and Publication Team at the Head office and Branch (Liaisons) offices. A catalogue of Ethiopian Standards is also available freely and can be accessed in from our website.

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